CLAIMS

What is claimed is:

1. A room planning and design system, comprising:

a virtual room space comprising a virtual representation of a physical room space;

an object library of virtual objects, said virtual objects comprising virtual representations of equipment, machines, and objects that may be placed in a room;

a user interface comprising:

a first user interface component for selecting said virtual objects from said virtual library and positioning them in said virtual room space;

a second user interface component for manipulating the positions and orientations of said virtual objects within said virtual room space;

a workspace comprising a physical model of said physical room space;

physical marker objects substantially scaled to said workspace for manual placement and orientation of said markers objects in said workspace;

one or more detectors for detecting information regarding the positioning of said marker objects in said workspace and transmitting said information to a visualization module; and

said visualization module adapted to receive said information from said detectors and utilize said information for positioning said virtual objects within said virtual room space.

2. The system of claim 1 wherein:

said detected information comprises the positioning of said marker objects comprises both the placement and orientation of said marker objects; and

said visualization model utilizes said information to both place and orient said virtual objects within said virtual room space.

3. The system of claim 1 wherein said physical room space is a factory plant.

4. The system of claim 1 wherein said physical room space is a medical facility.

5. The system of claim 4 wherein at least one of said virtual objects is an MRI machine.

6. The invention of claim 1 wherein said object library of virtual objects comprises data stored in a computer-readable media.

7. The invention of claim 6 wherein each said virtual object further comprises data regarding the motion of said virtual object, useable by the user to animate said virtual object on said visual display.

8. The system of claim 1 further comprising a third user interface component for permitting the user to virtually move about said virtual room space.

9. The system of claim 1 wherein said workspace is a table.

10. The system of claim 1 wherein said detector comprises at least one camera.

11. The system of claim 1 wherein said marker objects further comprise markings thereon that yield identification information to said detector.

12. The system of claim 1 wherein said marker objects further comprise markings thereon that yield orientation information to said detector.

13. A method of room planning and design, comprising:

obtaining a virtual room space comprising a virtual representation of a physical room space;

loading an object library comprising virtual objects;

selecting an virtual object;

receiving positioning information from a user through a workspace comprising a physical model of said physical room space;

positioning said virtual object in said virtual room space in accordance with said positioning information; and

wherein said receiving of positioning information from a workspace comprises receiving from a detector the positioning of marker object manually positioned within said workspace by the user.

14. The method of claim 13 further comprising the step of selecting an active working plane for said positioning of said virtual object.

15. A program storage device, readable by machine, tangible embodying a program of instructions executable by the machine to perform method steps for room planning and design, said method steps comprising:

obtaining a virtual room space comprising a virtual representation of a physical room space;

loading an object library comprising virtual objects;

selecting an virtual object;

receiving positioning information from a user through a workspace comprising a physical model of said physical room space;

positioning said virtual object in said virtual room space in accordance with said positioning information; and

wherein said receiving of positioning information from a workspace comprises receiving from a detector the positioning of marker object manually positioned within said workspace by the user.

16. The apparatus of claim 15 further comprising the step of selecting an active working plane for said positioning of said virtual object.